<u>CLAIMS</u>

What is Claimed is:

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1. A method for interference management of a processing communications satellite serving multiple user terminals in a satellite based cellular communications system, said method comprising:

K)

receiving a request for service from a user terminal;

accessing a communications system parameter;

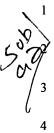
determining a connection parameter to minimize intrasystem interference based upon the communications system parameter for the user terminal;

allocating the connection parameter to this user terminal; and

making a communications connection with the processing communication satellite by the user terminal using the connection parameter.

2. The method as defined in claim 1 further comprising accessing a plurality of communications system parameters.

3. The method as defined in claim 2 wherein said plurality of communications system parameters includes active user terminal parameters.



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The method as defined in claim 3 wherein said active user terminal parameters includes locations of each active user terminal and frequency channels and time slots allocated to active user terminals.

5. The method as defined in claim 2 wherein said communications system parameters includes user plurality of database parameters, antenna pattern parameters. spacecraft/antennal pointing error parameters, and link condition database parameters.

6. The method as defined in claim 1 further comprising monitoring if the communications connection is still active.

The method as defined in claim 6 further comprising redetermining the connection parameter for the user terminal based upon an updated communications system parameter.

The method as defined in claim 1 wherein the one connection parameter is a frequency channel.

9. The method as defined in claim 1 wherein the connection parameter is a time slot.

10. The method as defined in claim 1 further comprising updating the communications system parameter after the communications connection ends.



A satellite based cellular communications system for servicing multiple user terminals, said satellite based cellular communications system comprising:

a processing communications satellite, said processing communications satellite supporting communications uplinks and communications downlinks between the multiple user terminals; and

a network operations center having a central control processor, said network operations center communicating with said processing communications satellite on said communications uplinks and said communications downlinks, said central control processor minimizes intra-system interference between the multiple user terminals by allocating a connection parameter to each user terminal based upon accessing a plurality of communications system parameters.

- 12. The satellite based cellular communications system as defined in claim 11 wherein said processing communications satellite supports the multiple user terminals via a multi-beam antenna.
- 13. The satellite based cellular communications system as defined in claim 11 wherein said central control processor allocates a frequency channel and time slot for each user terminal based upon locations of active user terminals.





	14. The										
system as	defined i	n claim	11 w	herein	said	plurality	O				
communicati	ons \syster	m param	eters	includes	s use	er datab	ase				
parameters, antenna pattern parameters, spacecraft/antenna pointing											
error parame	ters, and lin	k condition	databa	ase para	meters	3.					

15. The satellite based cellular communications systems as defined in claim 11 wherein said central control processor periodically re-allocates said connection parameters to each user terminal based upon an updated plurality of communications system parameters.

A method for interference management of a communications system servicing multiple user terminals, said method comprising:

redeiving a request for service from a user terminal;

accessing a plurality of communications system

parameters;

determining a frequency channel and time slot parameter allocation for the user terminal to minimize intra-system interference based upon the plurality of communications system parameters;

allocating the frequency channel and time slot parameter to the user terminal;





making	a comm	nunications	connec	tion by	the	user						
terminal using the frequency channel and time slot parameter; and												
1 4		ermining t										
time slot parameter	allocation	for the u	ser term	inal to	contin	ue to						
minimize intra-system	\ interferer	ice.										

17. The method as defined in claim 16 further comprising redetermining the frequency channel and time slot allocation after a determination is made that the communications connection is still active.

18. The method as defined in claim 16 comprising accussing the plurality of communications system parameters from a user database, antenna pattern database, spacecraft/antenna pointing error database and link condition database.

v 19. The method as defined in claim 18 further comprising updating the databases after the communication connection has ended.

20. The method as defined in claim 16 comprising including within the plurality of communications system parameters location of active user terminals and frequency channel and time slots allocated to the active user terminals.

